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| 10/727,185      | 12/02/2003  | Maxim Ladonnikov     | PA2628US            | 5213             |

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| EXAMINER |
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MERCHANT, SHAHID R

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3694

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/727,185

**Applicant(s)**

LADONNIKOV ET AL.

**Examiner**

Shahid R. Merchant

**Art Unit**

3694

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/17/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 26 objected to because of the following informalities: claim 25 is system claim, however Applicant recites claim 25 as being a method claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 27-29 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 27-29 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 27-29 are directed to non-statutory subject matter. Computer programs *per se* are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760. See MPEP § 2106 .01 [R-5].

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-10 and 15-29 rejected under 35 U.S.C. 102(b) as being anticipated by Wuthrich, B., Cho, V., Leung, S., Permuntilleke, D., Sankaran, K., Zhang, J. (see PTO-892, Ref U). Hereinafter Wuthrich.

6. As per claim 1, Wuthrich teaches a method comprising the steps of: collecting a first set of publications based on a financial measure; identifying characteristic variables by performing linguistic analysis on the first set of publications; computing at least one first value for each characteristic variable based on the first set of publications; and creating a forecasting function based on the characteristic variables and the first values (see Ref U).

7. As per claim 2, Wuthrich teaches the method of claim 1 as described above. Wuthrich further teaches obtaining keyword expressions related to the financial measure; identifying publications from the first set of publications based on the keyword expressions; and identifying as the characteristic variables predetermined characteristics of significant word expressions within the identified publications (see Ref U).

8. As per claim 3, Wuthrich teaches the method of claim 1 as described above.

Wuthrich further teaches identifying significant word expressions for the first set of publications; obtaining keyword expressions based on the financial measure; and identifying as the characteristic variables predetermined characteristics of combinations of significant word expressions and keyword expressions (see Ref U).

9. As per claim 4, Wuthrich teaches the method of claim 1 as described above.

Wuthrich further teaches collecting a second set of publications based on the financial measure; determining a second value for each characteristic variable by performing linguistic analysis on the second set of publications; and computing a value movement forecast for the financial measure based on the forecasting function and the second values (see Ref U).

10. As per claim 5, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches comparing the value movement forecast to value movement characteristics exhibited by the financial measure to evaluate the forecasting function (see Ref U).

11. As per claim 6, Wuthrich teaches a system comprising: a publication collection engine configured to collect a first set of publications based on a financial measure; and a forecasting function generator configured to identify characteristic variables and compute at least one first value for each characteristic variable by performing linguistic analysis on the first set of publications, and to create a forecasting function based on the characteristic variables and the first values (see Ref U).

12. As per claim 7, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches obtaining keyword expressions related to the financial measure; identifying publications from the first set of publications based on the keyword expressions; and identifying as the characteristic variables predetermined characteristics of significant word expressions within the identified publications (see Ref U).

13. As per claim 8, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches identifying significant word expressions from the first set of publications; obtaining keyword expressions based on the financial measure; and identifying as the characteristic variables predetermined characteristics of the combinations of significant word expressions and keyword expressions (see Ref U).

14. As per claim 9, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches a value movement forecast generator configured to determine a second value for each characteristic variable by performing linguistic analysis on the second set of publications and to compute a value movement forecast for the financial measure based on the forecasting function and the second values (see Ref U).

15. As per claim 10, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches wherein the publication collection engine comprises at least one crawler configured to retrieve the first set of publications based on the financial measure (see Ref U).

16. As per claim 15, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches wherein the forecasting function generator comprises a

linguistic analyzer configure to identify the characteristic variables and compute the at least one first value for each characteristic variable by performing linguistic analysis on the first set of publications (see Ref U).

17. As per claim 16, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches wherein the forecasting function generator further comprises a modeling engine configured to create the forecasting function based on the characteristic variables and the first values (see Ref U).

18. As per claim 17, Wuthrich teaches the method of claim 4 as described above.

Wuthrich further teaches wherein the value movement forecast generator is further configured to compare the value movement forecast to value movement characteristics exhibited by the financial measure to evaluate the forecasting function (see Ref U).

19. Claim 18 recites similar limitations to claim 6 and thus rejected using the same art and rationale in the rejection of claim 6 as set forth above.

20. Claim 19 recites similar limitations to claim 9 and thus rejected using the same art and rationale in the rejection of claim 9 as set forth above.

21. Claim 20 recites similar limitations to claim 17 and thus rejected using the same art and rationale in the rejection of claim 17 as set forth above.

22. Claim 21 recites similar limitations to claim 1 and thus rejected using the same art and rationale in the rejection of claim 1 as set forth above.

23. Claim 22 recites similar limitations to claim 4 and thus rejected using the same art and rationale in the rejection of claim 4 as set forth above.

24. Claim 23 recites similar limitations to claim 5 and thus rejected using the same art and rationale in the rejection of claim 5 as set forth above.

25. Claim 24 recites similar limitations to claim 1 and thus rejected using the same art and rationale in the rejection of claim 1 as set forth above.

26. Claim 25 recites similar limitations to claim 4 and thus rejected using the same art and rationale in the rejection of claim 4 as set forth above.

27. Claim 26 recites similar limitations to claim 5 and thus rejected using the same art and rationale in the rejection of claim 5 as set forth above.

28. Claim 27 recites similar limitations to claim 1 and thus rejected using the same art and rationale in the rejection of claim 1 as set forth above.

29. Claim 28 recites similar limitations to claim 4 and thus rejected using the same art and rationale in the rejection of claim 4 as set forth above.

30. Claim 29 recites similar limitations to claim 5 and thus rejected using the same art and rationale in the rejection of claim 5 as set forth above.

***Claim Rejections - 35 USC § 103***

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. Claims 11-14 rejected under 35 U.S.C. 103(a) as being unpatentable over

Wuthrich, B., Cho, V., Leung, S., Permuntilleke, D., Sankaran, K., Zhang, J.,

(Hereinafter Wuthrich) (see PTO-892, Ref U) in view of Official Notice.



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33. As per claims 11 and 12, Wuthrich teaches the system of claim 6 as described above. Wuthrich does not explicitly teach the concept of quick matching filters and pattern matching filters. Official Notice is taken that filtering methods and techniques using quick matching filters and pattern matching filters are well known in the arts as disclosed by Applicant in paragraph 34 of specification.

Therefore, it would be prima facie obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Wuthrich and Official Notice to use matching and pattern filters because the filters would eliminate duplicate or similar publications that could skew the forecast.

34. As per claims 13 and 14, Wuthrich teaches the system of claim 6 as described above. Wuthrich does not explicitly teach the concept storing publications in a database. Official Notice is taken that storing publications in a database is old and well known in the arts.

Therefore, it would be prima facie obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Wuthrich and Official Notice to store publications in a database because the data can easily be retrieved to use in forecasting.

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### **Conclusion**


The following prior art, which is made of record but not relied upon, is considered pertinent to applicant's disclosure.

Gidófalvi, G.: Using News Articles to Predict Stock Price Movements. Project Report, Department of Computer Science and Engineering, University of California, San Diego. <http://www-cse.ucsd.edu/users/elkan/254spring01/gidofalvirep.pdf>, 2001-06-15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid R. Merchant whose telephone number is 571-270-1360. The examiner can normally be reached on First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammel can be reached on 571-272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
ELLA COLBERT  
PRIMARY EXAMINER